

CLAIMS

1. A method of determining protection transmission unit allocation on a protection cycle on a communication network, the method comprising the steps of:

assessing connection information on the protection cycle;

determining a protection transmission unit allocation from said connection information.

2. The method of claim 1, wherein the connection information comprises A/Z information.

3. The method of claim 2, wherein the connection information further comprises connection ID information.

4. The method of claim 1, wherein the protection cycle is a ring on the communication network and wherein the step of assessing connection information comprises determining connections affected by a failure on the ring.

5. The method of claim 4, wherein the step of assessing connection information is performed upon receiving notice of a failure on the ring.

6. The method of claim 1, wherein the protection transmission unit is a unit of bandwidth.

7. The method of claim 1, wherein the communication network is based on an optical transport technology, and wherein the step of determining a protection transmission unit allocation comprises determining transmission times for connections according to the connection information.

8. The method of claim 1, wherein the protection cycle is a ring on the communication network and wherein the method is performed by each node on the ring.

9. The method of claim 1, wherein the protection cycle is a p-cycle on the communication network, and wherein the communication network is a mesh network.

10. A method of establishing protection transmission unit allocation on a protection cycle on a communication network, the method comprising the steps of:

distributing connection information associated with connections on the protection cycle to nodes on the protection cycle; and

determining, by the nodes on the protection cycle, protection transmission unit allocation on the protection cycle for the connections on the network affected by a failure on the protection cycle according to the connection information.

11. The method of claim 10, wherein the protection cycle is a ring, wherein the nodes are nodes on the ring, and wherein the connections are connections that are provisioned through at least two nodes on the ring.

12. The method of claim 10, wherein the communication network is at least one of a SONET and SDH based network, wherein the protection cycle is at least one of a SONET ring and an SDH ring, and wherein the protection transmission unit allocation is a time slot on the ring.

13. The method of claim 10, wherein the protection cycle has a working path and a protection path, wherein connections are transmitted in time slots on the working path, and wherein the protection transmission units are time slots on the protection path.

14. The method of claim 13, wherein the protection cycle has two working paths and two protection paths, wherein time slot interchange is permitted on the working path, and wherein time slots are allocated on the protection path.

15. The method of claim 14, wherein extra traffic may be carried on the protection path, and wherein time slot interchange is permitted for the extra traffic on the protection path.

16. The method of claim 10, wherein the communication network is a mesh network, wherein the protection cycle is a p-cycle on the mesh network.

17. The method of claim 17, wherein the connection information for connections protected by the p-cycle is disseminated to nodes on the p-cycle.

18. A node, comprising:

control logic configured to determine protection transmission unit allocation on a protection cycle for connections on a network affected by a failure on the protection cycle according to connection information associated with the connections.

19. The node of claim 18, wherein the control logic is further configured to determine protection transmission unit allocation according to connection identification information associated with the connections.

20. The node of claim 19, wherein the control logic is further configured to determine protection transmission unit allocation according to connection size information associated with the connections.